



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/925,980	08/10/2001	Jean-Marie Pierret	1200.509	4950

7590 10/04/2002

Liniak, Berenato, Longacre & White  
Suite 240  
6550 Rock Spring Drive  
Bethesda, MD 20817

EXAMINER

CUEVAS, PEDRO J

ART UNIT PAPER NUMBER

2834

DATE MAILED: 10/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/925,980

Applicant(s)

PIERRET ET AL.

Examiner

Pedro J. Cuevas

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 August 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5. 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Drawings***

1. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.
2. The drawings are objected to because handwritten text is present. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: REZ. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Specification***

4. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.
5. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Engine Control Apparatus With Improved Alternator Regulator Circuit Interface Means And Corresponding Interface.

### ***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless —

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-8, and 11-18 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,255,789 to Hartford et al.

Hartford et al. clearly teaches the construction of a microprocessor-based electronic control system for controlling the various functions of an internal combustion engine comprising:

a stator, and a rotor mounted in the stator (both in the engine's alternator);

a regulator circuit connected in the alternator and defining a variable reference voltage, the regulator circuit being adapted to vary the excitation of the alternator by comparing a signal representing the output voltage of the alternator with the said reference voltage; and

a conversion circuit (Figure 5H) connected with the said regulator circuit and arranged to receive a pulse width modulated reference control signal, whereby the conversion circuit is adapted to vary the said variable reference voltage as a function of the reference control signal, wherein the conversion circuit comprises, in combination:

an internal clock (134) with a controllable variable period, being a voltage controlled oscillator;

a difference circuit (Figure 4A) connected to the internal clock for producing a difference signal between the period of the said reference control signal and the period of a signal from the internal clock, comprising:

means for producing a symmetrical rectangular signal with a period which is a whole number multiple of the period of the reference control signal,

means for producing difference pulses between the said symmetrical rectangular signal and a signal produced from the internal clock,

means for producing a signal representing the direction of the difference signal, at least during the duration of the said difference pulses and being adapted so that the width of the difference pulses is proportional to the difference between the period of the reference control signal and the period of the said signal from the internal clock;

a control circuit (Figure 5E) for the internal clock, connected to the internal clock and the difference circuit, for controlling the clock in response to the said difference signal whereby to equalize the period of the said clock signal with the period of the said control signal, and a bi-directional counter connected to the difference circuit for receiving the said difference pulses and direction signal; and

a voltage pulse width conversion circuit (Figures 4Dn) connected to the said clock and comprising a counter adapted to be paced by the said internal clock and to perform a count while the reference control signal is at a given logic level, and a digital/analogue converter (Figure 3) connected to the counter for converting a value of count supplied to the converter by the counter into a voltage

such as to define the reference voltage of the regulator, and having a memory station input, the alternator further including means for applying to the said input a memory station signal so long as the said reference control signal is at a logic level other than the said given logic level.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 9, 10, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,255,789 to Hartford et al. in view of common knowledge in the art.

Hartford et al. discloses the claimed invention except for the whole of the conversion circuit is an integrated circuit, including a semiconductor chip carrying the regulator circuit, wherein the same chip carries the conversion circuit. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the conversion circuit an integrated circuit including a semiconductor chip carrying the regulator circuit, since it has been held that forming in one piece an article, which has formerly been formed in two pieces and put together, involves only routine skill in the art. *Howard v. Detroit Stove Works*, 150 U.S. 164 (1893). The term "integral" is sufficiently broad to embrace constructions united by such means as fastening and welding. *In re Hotte*, 177 USPQ 326, 328 (CCPA 1973).

*Conclusion*

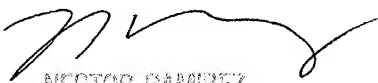
10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pedro J. Cuevas whose telephone number is (703) 308-4904. The examiner can normally be reached on M-F from 8:30 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor R. Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-1341 for regular communications and (703) 305-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Pedro J. Cuevas  
September 27, 2002

  
NESTOR RAMIREZ  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800